

## TI Technology Guide for *Super Ticket Sales*

### TI-83 Plus and TI-83 Plus Silver Edition

#### ***Creating Lists of Data, Displaying the Graph, and Finding Measures of Central Tendency***

For this activity you will enter data in lists and display the data in box-and-whisker plots (sometimes referred to as box plots). You will also find numerical values for the mean, median, and mode of each data set.




For entering the data from the table in the activity, press **[STAT]** and select **1:Edit** to access the List Editor window. Be sure to clear any existing data in the lists by highlighting the list name, then pressing **[CLEAR]** **[ENTER]**.


L1	L2	L3	1
████████	-----	-----	
L1(1) =			

Move the cursor to the first data position in L1. Enter the data from your table for Opening Weekend Sales, pressing **[ENTER]** after the sales amount for each movie. Move the cursor to the first data position in L2 and enter the corresponding Total Ticket Sales from your table.

L1	L2	L3	1
17.1	-----	-----	
54.5			
32.5			
████████			
L1(4) =			

Access the STAT PLOTS menu screen by pressing **[2nd]** **[Y=]**. Select **1:Plot1** to get the screen shown. Notice that **Plot1** and **On** are highlighted. To turn on or off any plot, place the cursor over the name, press **[ENTER]**, then select either **On** or **Off**, and press **[ENTER]** again. This process acts like a toggle switch to turn the plots on and off the graphing display.

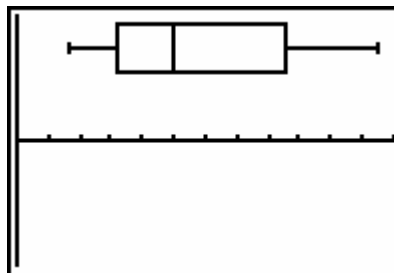
Plot1	Plot2	Plot3
<b>On</b>	Off	Off
Type: 		
Xlist: L1		
Freq: 1		

Select  for the type. For Xlist: press **[2nd]** **[1]** to insert L1, and enter 1 for Freq:.

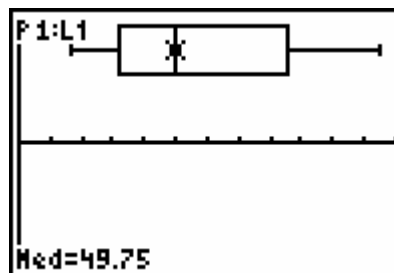
Press **[WINDOW]** to set the display maximum and minimum values so that the entire plot can be viewed. A sample set of values is shown here. (The Ymin value could be set at 0, which would display just Quadrant 1 of the coordinate graph.)

WINDOW
Xmin=0
Xmax=120
Xscl=10
Ymin=-100
Ymax=100
Yscl=0
Xres=1

Press **[GRAPH]** to see the plot of the data in List 1 (Opening Weekend Sales).



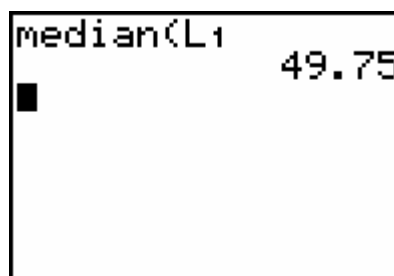
Press **[TRACE]**, then use the cursor arrows to display the 5 values on the plot (minimum x-value, Quartile 1, Median, Quartile 3, and maximum x-value in the data set). Notice that the mean is not given here.



You can also find the median and the mean using the LIST MATH menu.

Press **[2nd]** **[STAT]** **[4]** and select **4:median(**.

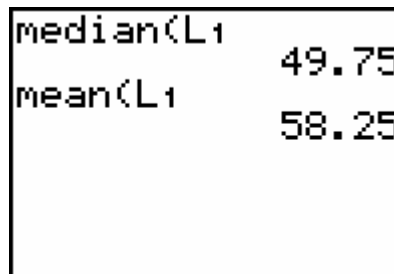
On the new screen, press **[2nd]** **[1]** (to insert L1), then **[ENTER]**. The same median value is displayed as on the graph screen.



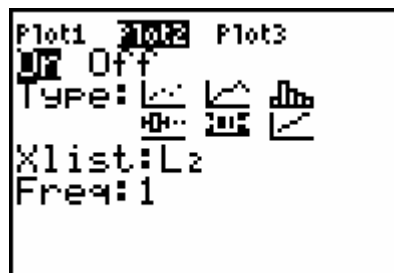
To get the mean, press **[2nd]** **[STAT]** **[4]** and select **3:mean(**.

Enter L1. The mean value of the data is displayed.

Note: There is no automated way of getting the mode value from the data on the TI-83 Plus.

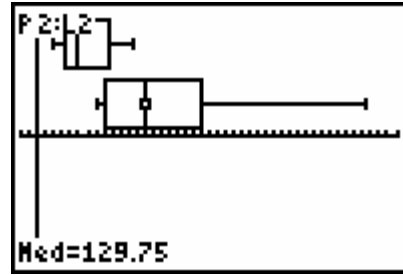


Repeat this process for the Total Ticket Sales data entered in L2. Use Plot2 in the STAT PLOTS menu for the data in L2. You will want to turn off Plot1, and you will need to change the WINDOW settings to fit the data in this list.



Once you have your values for the measures of central tendency in L1 and L2, you can plot both sets of data by turning on both Plot1 and Plot2 in the STAT PLOTS menu.

Press **[GRAPH]**. If you need to adjust the WINDOW to display both plots, press **[ZOOM]** **9:ZoomStat**. This will automatically adjust the window. Press **[TRACE]** and use the left and right cursors to see the values of each box plot. Use the up and down cursors to switch between Plot 1 and Plot 2. The information in the upper left corner of the screen identifies the Plot and List that are associated with the data displayed in the lower left corner.



To find what percent the Opening Weekend Sales were of the Total Ticket Sales, you will enter a formula into L3 of the List Editor.

Press **[LIST]** **[↑]** to highlight the label for L3.

L1	L2	3
17.1	70.1	-----
54.5	157.3	
32.5	81.7	
114.8	403.7	
45	102.2	
85.6	200.3	
-----	-----	
L3 =		

Press **[STO▶]**, which places a blinking cursor to the right of the = on the bottom of the screen. You will type in the expression which will identify what percent each data point in L1 is of its corresponding data point in L2. To insert the list names, remember to press **[2nd]** **[STAT]**, then the correct list name.

L1	L2	3
17.1	70.1	-----
54.5	157.3	
32.5	81.7	
114.8	403.7	
45	102.2	
85.6	200.3	
-----	-----	
L3 = L1 / L2 * 100		

Press **[ENTER]**. The corresponding percent values will be pasted into L3.

L1	L2	L3	3
17.1	70.1	24.3937	
54.5	157.3	34.647	
32.5	81.7	39.78	
114.8	403.7	28.437	
45	102.2	44.031	
85.6	200.3	42.736	
-----	-----	-----	
L3(1) = 24.3937232...			

## TI Technology Guide for *Super Ticket Sales*

### TI-73 Plus Explorer™

### ***Creating Lists of Data, Displaying the Graph, and Finding Measures of Central Tendency***

For this activity you will enter data in lists and display the data in box-and-whisker plots (sometimes referred to as box plots). You will also find numerical values for the mean, median, and mode of each data set.

For entering the data from the table in the activity, press **[STAT]** and select **1:Edit** to access the List Editor window. Be sure to clear any existing data in the lists by highlighting the list name, then pressing **[CLEAR]** **[ENTER]**.

L1	L2	L3	1
████████	-----	-----	
L1(1) =			

Move the cursor to the first data position in L1. Enter the data from your table for Opening Weekend Sales, pressing **[ENTER]** after the sales amount for each movie. Move the cursor to the first data position in L2 and enter the corresponding Total Ticket Sales from your table.

L1	L2	L3	1
17.1 54.5 32.5 ████████	-----	-----	
L1(4) =			

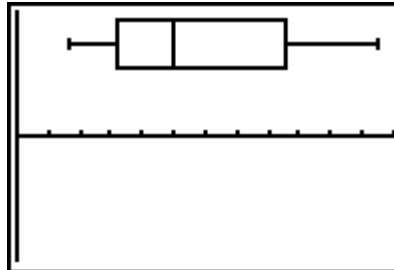
Access the STAT PLOTS menu screen by pressing **[2nd]** **[Y=]**. Select **1:Plot1** to get the screen shown. Select **[F1]** for the type. For Xlist: press **[2nd]** **[LIST]** and select **1:L1**, and type 1 for Freq:.

Plot1	<input checked="" type="checkbox"/>	Off
Type:	<input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Xlist:	<input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Freq:		1

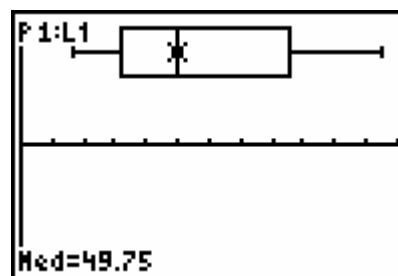
Press **[WINDOW]** to set the display maximum and minimum values so that the entire plot can be viewed. A sample set of values is shown here. Notice that the value for  $\Delta X$  is automatically entered when you type the Xmin and Xmax values. (The Ymin value could be set at 0, which would display just Quadrant 1 of the coordinate graph.)

WINDOW
Xmin=0
Xmax=120
$\Delta X=1.276595744...$
Xscl=10
Ymin=-100
Ymax=100
Yscl=0

Press **GRAPH** to see the plot of the data in List 1 (Opening Weekend Sales).



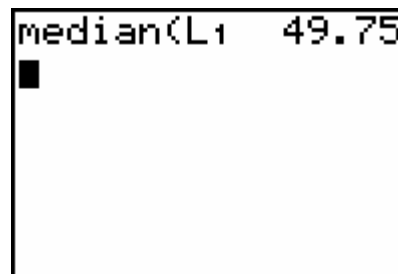
Press **TRACE**, then use the cursor arrows to display the 5 values on the plot (minimum x-value, Quartile 1, Median, Quartile 3, and maximum x-value in the data set). Notice that the mean is not given here.



You can also find the median, the mean, and the mode using the LIST MATH menu.

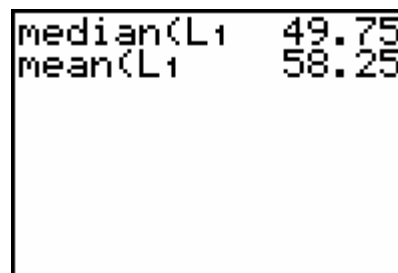
Press **2nd** **LIST** **▶** **▶** and select **4:median(**.

On the new screen, press **2nd** **LIST** **1:L1**, then **ENTER**. The same median value is displayed as on the graph screen.



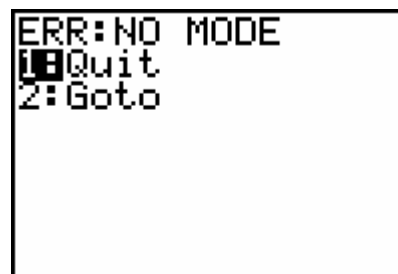
To get the mean, press **2nd** **LIST** **▶** **▶** and select **3:mean(**.

Press **2nd** **LIST** **1:L1**, then **ENTER**. The mean value of the data is displayed.

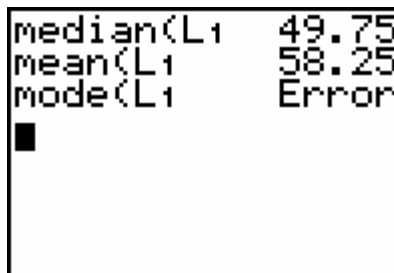


To get the mode, press **2nd** **LIST** **▶** **▶** and select **5:mode(**.

Press **2nd** **LIST** **1:L1**, then **ENTER**. For this set of data, an error message is given indicating that there is no mode.



Select **1:Quit**. This returns you to the home screen with the error indicated.

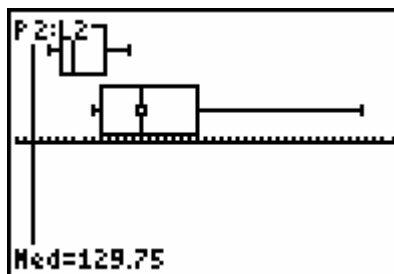


Repeat this process for the Total Ticket Sales data entered in L2. Use Plot2 in the STAT PLOTS menu for the data in L2. You will need to change the WINDOW settings to fit the data in this list.



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Press **GRAPH**. If you need to adjust the WINDOW to display both plots, press **ZOOM 7:ZoomStat**. This will automatically adjust the window. Press **TRACE** and use the left and right cursors to see the values of each box plot. Use the up and down cursors to switch between Plot 1 and Plot 2. The information in the upper left corner of the screen identifies the Plot and List that are associated with the data displayed in the lower left corner.



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L3 =		

Press **STO▶**, which places a blinking cursor to the right of the = on the bottom of the screen. You will type in the expression which will identify what percent each data point in L1 is of its corresponding data point in L2. To insert the list names, remember to press **2nd** **LIST**, then the correct list name.

L1	L2	3
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45	102.2	
85.6	200.3	
-----	-----	
L3 = L1 / L2 * 100		

Press **ENTER**. The corresponding percent values will be pasted into L3.

L1	L2	L3	3
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32.5	81.7	39.78	
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L3(1) = 24.3937232...			